REMARKS

Claims 1-24 remain in the application. Claims 1, 3-7, and 16-20 were allowed (claim 4 was objected to), and the remaining claims were rejected. Claims 2, 8, 21 and 23 have been amended to even more clearly point out the invention and to avoid interpretations mentioned by the Examiner in the last Office Action. Basis for the amendments to claims 2 and 21 can be found in the paragraph spanning pages 12 and 13 of the specification. Basis for the amendment to claim 8 can be found on lines 6-8 of page 7 of the specification. Basis for the amendment to claim 23 is found in canceled claim 24. These amendments should be entered because they reduce the number of claims and they either make the claims allowable or reduce the issues for an appeal. Further, they address new basis for rejections raised in the Final Office Action and they address new interpretations by the Examiner not heretofore apparent to Applicant.

Claim 4 was objected to as being dependent upon a rejected claim, claim 2. While the examiner stated that this claim would be allowable if changed to be dependent upon an allowed claim, Applicant prefers to maintain its dependence and let it stand or fall with claim 2 since it is similar to claim 3 which depends from claim 1.

Claims 8-10 were rejected under 35 USC 112, first paragraph, as containing subject matter not described adequately in the specification, namely "which open area in said end portions ranges between about 10 to about 16 percent open area based on the total area of the end portions." Apparently the Examiner is objecting to the term "open area". The word "open" has been changed to "hole" in lines 3 and 5 of claim 8 by the above amendment, but the Examiner's attention is directed to the Summary of the Invention section of the specification, page 7, lines 6 and 8 where in two places "open area" is described as being the same as "hole area". Basis for the remainder of the claim limitation can be found on page 13, the last

3 lines of the first complete paragraph (middle of page). Applicant believes that current claims 8-10 meet the requirements of 35 USC 112, first paragraph, and respectfully request the Examiner to withdraw this rejection and allow the claims.

Claims 8-10 were rejected under 35 USC 112, second paragraph, because the meaning of the term "open area" was unclear. This term has been changed to "hole area" by the above amendment, but as pointed out above, page 13, last three lines of the complete paragraph in the middle of the page, describe "open area" as being the same as "hole area". Applicants believe that claims 8-10 meet the requirements of 35 USC 112 and respectfully request the Examiner to withdraw this rejection and allow these claims.

Claim 2 was rejected under 35 USC 102(b) as being clearly anticipated by Stalego '741. Applicant traverses this rejection. Stalego does not anticipate the amended claims above because Stalego neither teaches nor suggests a bushing having a screen comprising a center or mid portion and two end portions with the end portion closest to the channel being smaller than the other end portion. This is critical to achieving the best performance when the bushing is used in channel positions as pointed out in Figure 6 and the specification at the bottom portion of page 12 and the top portion of page 13. Nothing in Stalego teaches or suggests using a bushing having a different screen design for channel positions than is normally used in the remainder of the positions to improve fiberizing efficiency. Stalego neither teaches the structure claimed or the reason for the structure. While Stalego's invention might be intended, among other things, to address the problem with channel positions, Stalego does not teach, or remotely suggest, Applicant's claimed solution.

The first two lines of amended claim 2 now clearly state that the improvement is for a mounted bushing for making fibers --- from channel positions. While Applicant does not believe this amendment is necessary because the claimed bushing is different than anything taught by Stalego, it is made to give clear meaning to the

limitation giving the orientation of the bushing screen, that the smaller of the two end portions of the screen be closest to the channel. This claim is not just for a bushing, but for a bushing that is mounted in a channel position to operate. Also, the claim has been amended to precisely point out the type of bushing screen disclosed and to eliminate any possibility of including the type of interpretation given to the claim by the Examiner in the last Office Action. Basis for the amendments to this claim and the above amendment can be found in the paragraph spanning pages 12 and 13 of the specification.

While claim 2 now more clearly distinguishes from the bushings taught by Stalego '741, Applicant believes that claim 2 did that before this amendment. A bushing is useful only when mounted and the claim previously limited the structure of the bushing when it was mounted for use in a channel position. Also, when the previous claim was read in light of the specification, one would not reach the interpretation asserted by the Examiner.

For these reasons Applicant believes that Stalego '741 neither anticipates nor suggests the mounted bushing of claim 2 to the skilled artisan and respectfully requests the Examiner to withdraw this rejection and allow claim 2 and all claims dependent therefrom.

Claims 21-22 were rejected under 35 USC 103 as being unpatentable over Stalego. This rejection is traversed. While it is obvious to use the bushings taught by Stalego in any position, including channel positions of a fiberizing operation, doing so would not result in the claimed invention. Stalego does not teach the bushing screen presently claimed having end portions differing in area with the smallest end portion located closest to the channel.

The Examiner does not appear to be giving any weight to claim limitation that one end portion is smaller in area than the other end portion and that in operation the smallest end portion is located closest to the channel. The present invention solves an old

problem in the art of making continuous glass fiber from bushings mounted in channel positions. The claimed orientation is critical to this solution which Stalego does not remotely suggest to the skilled artisan. Stalego does not teach or suggest making one end portion of a bushing screen different in area than an opposite end portion, any reason for doing so, or any reason for using the bushing such that the smaller end portion of the screen is closest to the channel. The claim has been amended to more particularly point out the orientation of the bushing screen in use.

Applicant believes that claims 21-22 patentably distinguish over the teachings of Stalego and respectfully request the Examiner to withdraw the rejection under 35 USC 103 and allow these claims.

Claims 23-24 were rejected under 35 USC 103 as being unpatentable over Marra. The Examiner states that it is clear that the hole density in the center portion of the top screen or combination of screens of Marra is significantly less than the hole density in the end portions of the screen. This rejection and basis is traversed. Claim 23 defines a method of making fibers from a molten material in a channel position of a multi-bushing operation using a bushing having a first screen spaced above a tip plate with this screen being attached to the sidewall of the bushing with the invention using a second screen lying on top of the first screen and wherein the second screen has a hole diameter and/or hole density in a central portion of the screen that is significantly less than the respective hole diameter and/or hole density in two end portions of the screen such that the resistance to flow of the molten material through the different portions of the screen is different in a prescribed way. Claim 23 has been amended to more specifically define "significantly less" and claim 24 has been canceled. Basis for the amendment to claim 23 is found in canceled claim 24. Marra does not teach or remotely suggest such a bushing structure and teaches nothing about solving the old problem of hot streaking in bushings in channel positions.

Marra teaches using a first screen 45 welded to the sidewalls of a bushing, which screen contains a plurality of ports (holes) 46, and a second movable screen 50 lying on top of the first screen 45, this second screen having apertures (holes) 51 that align with the ports 46, see col. 3, lines 49-50. To be aligned the ports in the second screen would have to be the same size and spaced the same as the ports in the first screen and thus the hole (port) area in the second screen per unit area of screen could not be less than the hole area per unit area of screen in the first screen. Marra does teach using a second screen lying on top of a first screen, however, Marra teaches that the hole pattern of the second screen is essentially the same as the hole pattern in the first screen. While Marra does seem to suggest that the top screen may have more ports than the lower screen has aperatures (col. 4, lines 22-26), Marra does not teach or suggest why one would do so and certainly does not suggest how to use such an embodiment, which embodiment is totally different than Applicant's invention.

The disclosed purpose of the movable second screen of Marra is to modify the head pressure of the molten glass at the discharge wall (tip plate) to be able to change from a "dripless" condition to a "bead down" condition when it was necessary to restart the fiberizing of the bushing, and vice versa. This is a totally different purpose and problem than is dealt with by the present invention. Nothing in Mara suggests modifying the bushing screen of Marra to arrive at the presently claimed bushing and second bushing screen.

Marra does not teach or remotely suggest a second screen with a center portion having a higher resistance to flow of a molten glass therethrough than through two end portions of the second screen. Marra does not teach or remotely suggest this. Applicant believes that the Examiner's interpretation of Figure 2 is improper and unreasonable. First, Figure 2 of Marra does not show the entire hole pattern of the top screen 50, which is permissible when the pattern is merely repetitive. Also, it is well established that patent drawings are not drawn to scale. If the Examiner finds the

presently claimed invention in the drawings and other teachings of Marra, it is only by using hindsight reconstruction after having the benefit of Applicant's disclosure. Marra neither teaches nor remotely suggests the screen structure claimed or the reason for it taught by Applicant's disclosure.

Applicant believes that the invention defined by claim 23 is patentably distinct over the teachings of Marra and thus respectively requests the Examiner to withdraw this rejection and allow claim 23.

Claims 11-15 were rejected under 35 USC 103 as being unpatentable over Hill. This rejection is traversed. Claim 11 defines a lay in screen for laying on top of another screen in a fiberizing bushing, the lay in screen having a central portion and two end portions, the central portion having a hole area per unit area that is significantly less than the hole area per unit area of the end portions. Claims 12-15 further limit the term "significantly less". Note that claim 11 defines a lay in screen having end portions which have a hole area per unit area. Hill does not remotely teach or suggest such a bushing structure.

The Examiner asserts that Figures 1 and 2 of Hill teache or suggest the claimed lay in screen, but the bushing illustrated and taught by Hill does not have a lay in screen for laying on another screen. Figures 1 and 2 of Hill do not appear to show a screen. Figure 1 shows two positions of a fiberizing operation with an apparatus for flowing streams of glass in each position of the type taught by Hill. Figure 2 shows a portion of an orifice plate of Hill's apparatus for flowing streams. Neither of these figures show a lay in screen for laying on another screen, or apparently any screen. The closest Hill comes to showing a screen in his fiberizing apparatus is the sheet 124 shown in Figure 7, but the sheet 124 is not even a screen because it is welded to the orifice plate strips 54, see col. 8, lines 25-31, i. e. sheet 124 is actually a part of the orifice plate of Hill's fiberizing bushing. The purpose of the sheet 124 is totally different than that of

Applicant's lay in screen as shown by lines 14-21 of col. 8, i. e. to protect ceramic spacers 122 and prevent leakage. Note particularly lines 38-41 of col. 8 where it is taught by Hill to drill holes in the sheet 124 and the orifice plate strips 120 simultaneously --- so that flow of glass through the openings is not inhibited. Note also that nowhere does Hill suggest laying another screen on top of sheet 124 nor of laying sheet 124 on top of another screen. This sheet 124 is of course totally different than Applicant's claimed lay in screen in the variation of hole areas per unit area of screen in different portions of the screen and thus Hill actually leads the skilled artisan away from this novel and critical feature of the claimed invention.

For these reasons Applicant believes that claims 11-15 are patentably distinct from the teachings of Hill and respectfully requests the Examiner to withdraw this rejection and to allow claims 11-15.

Applicant believes that the application is now in condition for allowance, but if the Examiner believes further amendment is required the Examiner is invited to call Applicant's attorney at (303) 978-3927 to discuss and expedite disposal.

Respectfully submitted,

Robert D. Touslee
Attorney for Applicant

Robert D. Touslee
Registration No. 34,032
(303) 978-3927